

RAW SEQUENCE LISTING

**The Biotechnology Systems Branch of the Scientific and Technical
Information Center (STIC) no errors detected.**

Application Serial Number: 10/586,374
Source: JFWR
Date Processed by STIC: 08/01/2006

ENTERED

CRF Errors Edited by the STIC Systems Branch

Serial Number: 10/586,374

CRF Edit Date: 08/01/2006
Edited by: DA

___ **Realigned nucleic acid/amino acid numbers/text in cases where the sequence text "wrapped" to the next line**

___ **Corrected the SEQ ID NO. Sequence numbers edited were:**

___ **Inserted or corrected a nucleic number at the end of a nucleic line. SEQ ID NO's edited:**

___ **Deleted: ___ invalid beginning/end-of-file text ; ___ page numbers**

___ **Inserted mandatory headings/numeric identifiers, specifically:**

___ **Moved responses to same line as heading/numeric identifier, specifically:**

___ **Other:**



IFWP

RAW SEQUENCE LISTING

DATE: 08/01/2006

PATENT APPLICATION: US/10/586,374

TIME: 15:52:40

Input Set : A:\pto.da.txt

Output Set: N:\CRF4\07312006\J586374.raw

```

4 <110> APPLICANT: Robert G.K. Donald
5     Paul Liberator
6     Xiaotian Zhong
8 <120> TITLE OF INVENTION: Coccidian parasite casein kinase I as a
9     chemotherapeutic target for antiprotozoal agents
12 <130> FILE REFERENCE: 21554P
C--> 14 <140> CURRENT APPLICATION NUMBER: US/10/586,374
C--> 14 <141> CURRENT FILING DATE: 2006-07-14
14 <150> PRIOR APPLICATION NUMBER: 60/537,094
15 <151> PRIOR FILING DATE: 2004-01-16
17 <150> PRIOR APPLICATION NUMBER: PCT/US2005/000955
18 <151> PRIOR FILING DATE: 2005-01-12
20 <160> NUMBER OF SEQ ID NOS: 45
22 <170> SOFTWARE: FastSEQ for Windows Version 4.0
24 <210> SEQ ID NO: 1
25 <211> LENGTH: 2182
26 <212> TYPE: DNA
27 <213> ORGANISM: Eimeria tenella
29 <220> FEATURE:
30 <221> NAME/KEY: CDS
31 <222> LOCATION: (715)...(1722)
33 <400> SEQUENCE: 1
34 gcggcgcgct cgacgtcttt gctgccgcac agggagcagc agcagccgcc gacccgatcc 60
35 cttgggagcc caccaagtgc tgcgttgct tagcagctac aggagctgcc gcgggggttg 120
36 tccttgagggc agcgtgcatg tatggtccgg cagccagctt ggtgtcgag ccgtacttct 180
37 tggaagcgag agagactgtg ggagagcgca aatcactcca gccgcttcca ggggagtgct 240
38 gggaccgcag gagcgttgga ggctgctgc cggcataaac aggaacaagc gcattcttat 300
39 tcttctgtgg ttgctgagtt ctggctgcgt tcaagggggt tcacctcttc cccttctggc 360
40 gagtttttgc tgcgtctttc cctaagaagc agcgccacgt gcgtggcgtg cctcagcctg 420
41 acgcggtgca ccttttacgt aagagcgtcg atagcatcgg tcatctacag cagcgtgctg 480
42 ctgcttccgt gacctttaca ctgcttggtg cgggccgtct tgtagagggg ccatctgctt 540
43 gttcgtgctg ggacgcagac ccggcgcccg acatttccgg cagccgggca gttgagataa 600
44 accggtgcc cggtggccgt cgaaattgaa gcaggatctc tacagtaagg aacaaatcgc 660
45 gctattttta aggagtgtgt atacttgggg cgttactcgt gagtattgct gatg atg 717
46                                     Met
47                                     1
48 gac gtc cgt gtg ggg ggt aag tat cgt ttg ggg agg aag att ggg agc 765
49 Asp Val Arg Val Gly Gly Lys Tyr Arg Leu Gly Arg Lys Ile Gly Ser
50         5                10                15
51 gga tcc ttc ggc gac atc tac ctt ggt acg aac atc tca aca gga gat 813
52 Gly Ser Phe Gly Asp Ile Tyr Leu Gly Thr Asn Ile Ser Thr Gly Asp
53         20                25                30
54 gaa gtc gct atc aaa ttg gaa agc gtg cgg tct agg cat cca caa cta 861

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DATE: 08/01/2006

PATENT APPLICATION: US/10/586,374

TIME: 15:52:40

Input Set : A:\pto.da.txt

Output Set: N:\CRF4\07312006\J586374.raw

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56 Glu Val Ala Ile Lys Leu Glu Ser Val Arg Ser Arg His Pro Gln Leu
57      35                      40                      45
58 atc tat gaa agc aag ctg tac aaa atc cta acg ggt gga atc gga atc 909
59 Ile Tyr Glu Ser Lys Leu Tyr Lys Ile Leu Thr Gly Gly Ile Gly Ile
60 50                      55                      60                      65
61 ccg act ctt tac tgg tat ggg atc gag ggg gat tac aac gtt atg att 957
62 Pro Thr Leu Tyr Trp Tyr Gly Ile Glu Gly Asp Tyr Asn Val Met Ile
63      70                      75                      80
64 att gag ctt ttg ggc ccg tct ctt gag gac ctc ttc agc att tgc aac 1005
65 Ile Glu Leu Leu Gly Pro Ser Leu Glu Asp Leu Phe Ser Ile Cys Asn
66      85                      90                      95
67 aga aag ctt tct ttg aag act gtt ctg atg ctc gcc gac caa atg cta 1053
68 Arg Lys Leu Ser Leu Lys Thr Val Leu Met Leu Ala Asp Gln Met Leu
69      100                      105                      110
70 aat cgt att gag ttc gtc cac agc aga cat ttc atc cat cga gac atc 1101
71 Asn Arg Ile Glu Phe Val His Ser Arg His Phe Ile His Arg Asp Ile
72      115                      120                      125
73 aag cct gac aat ttt ttg atc ggt agg ggc aaa aag atg tcc att gtt 1149
74 Lys Pro Asp Asn Phe Leu Ile Gly Arg Gly Lys Lys Met Ser Ile Val
75 130                      135                      140                      145
76 ttt gct atc gac ttt ggc ctc gca aag aag tac aga gat ccc aga aca 1197
77 Phe Ala Ile Asp Phe Gly Leu Ala Lys Lys Tyr Arg Asp Pro Arg Thr
78      150                      155                      160
79 cag tcc cat att cct tat cga gaa ggg aag aac ctg aca ggt acc gcg 1245
80 Gln Ser His Ile Pro Tyr Arg Glu Gly Lys Asn Leu Thr Gly Thr Ala
81      165                      170                      175
82 agg tac gcc tct gtg aac acc cac ttg gga ata gaa cag agc agg cgc 1293
83 Arg Tyr Ala Ser Val Asn Thr His Leu Gly Ile Glu Gln Ser Arg Arg
84      180                      185                      190
85 gat gat ctg gaa gcg ctc ggc tac gtc tta atg tac ttc aac aga ggt 1341
86 Asp Asp Leu Glu Ala Leu Gly Tyr Val Leu Met Tyr Phe Asn Arg Gly
87      195                      200                      205
88 tcc tta ccc tgg caa gga tta aag gcc act acg aag aaa gat aaa tat 1389
89 Ser Leu Pro Trp Gln Gly Leu Lys Ala Thr Thr Lys Lys Asp Lys Tyr
90 210                      215                      220                      225
91 gac aag att atg gag aag aag atg tcc acc cct att gaa gtc ctt tgc 1437
92 Asp Lys Ile Met Glu Lys Lys Met Ser Thr Pro Ile Glu Val Leu Cys
93      230                      235                      240
94 aaa caa ttt cca ttt gag ttt atc aca tat ctg aac tat tgc cgg tct 1485
95 Lys Gln Phe Pro Phe Glu Phe Ile Thr Tyr Leu Asn Tyr Cys Arg Ser
96      245                      250                      255
97 ctg cga ttc gaa gat cgc ccg gac tat tcc tat ttg aga cgg ttg ttc 1533
98 Leu Arg Phe Glu Asp Arg Pro Asp Tyr Ser Tyr Leu Arg Arg Leu Phe
99      260                      265                      270
100 aag gat ctt ttc ttc cgt gag gga tac cag tat gac ttt ata ttc gat 1581
101 Lys Asp Leu Phe Phe Arg Glu Gly Tyr Gln Tyr Asp Phe Ile Phe Asp
102      275                      280                      285
103 tgg aca ttt ctg cat gct gag aga gag cgc gag cgt caa aga cga tgc 1629
104 Trp Thr Phe Leu His Ala Glu Arg Glu Arg Glu Arg Gln Arg Arg Ser

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TIME: 15:52:40

Input Set : A:\pto.da.txt

Output Set: N:\CRF4\07312006\J586374.raw

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105 290          295          300          305
106 atg gtc aac caa ggc gca gaa tca ggg aac cag tgg aga cga gac gcg 1677
107 Met Val Asn Gln Gly Ala Glu Ser Gly Asn Gln Trp Arg Arg Asp Ala
108          310          315          320
109 tcg ggc aga gat cca ctt gga cgg ttg cct cag tta gaa ccg taa 1722
111 Ser Gly Arg Asp Pro Leu Gly Arg Leu Pro Gln Leu Glu Pro *
112          325          330          335
114 tctcttttacg ggcagattgc cgtacgggtc ttctgctcat tcagtggcag tgccaccgca 1782
115 gtgctatctg aggetgtggc ttcaggatgt ggtagccagt taccatggtc acttgccctc 1842
116 gctaggacag ccttcgcagg gaaatgtcac agtagcctgc attatgtggt gtgagaactg 1902
117 ctacgcatt cctgtagttg cttttacgaa gcaggatacg cagcgtgcat cacgcggtgg 1962
118 ttcgagcgct cgctacgcat cacagggtcg tgaggcaagt tagtatcttt gggggacgag 2022
119 ttgagagtgt cagaatcgat agtctcaggg catgcaggcg aaatggaggc tgcgccagta 2082
120 gtgccagccg gtggcgaagg cgtcaaattt actttttttg ttgctgggga tattgttaga 2142
121 gcaacaactt ggggtctagat gctactgata aaaaaaaaaa 2182
123 <210> SEQ ID NO: 2
124 <211> LENGTH: 335
125 <212> TYPE: PRT
126 <213> ORGANISM: Eimeria tenella
128 <400> SEQUENCE: 2
129 Met Asp Val Arg Val Gly Gly Lys Tyr Arg Leu Gly Arg Lys Ile Gly
130 1 5 10 15
131 Ser Gly Ser Phe Gly Asp Ile Tyr Leu Gly Thr Asn Ile Ser Thr Gly
132 20 25 30
133 Asp Glu Val Ala Ile Lys Leu Glu Ser Val Arg Ser Arg His Pro Gln
134 35 40 45
135 Leu Ile Tyr Glu Ser Lys Leu Tyr Lys Ile Leu Thr Gly Gly Ile Gly
136 50 55 60
137 Ile Pro Thr Leu Tyr Trp Tyr Gly Ile Glu Gly Asp Tyr Asn Val Met
138 65 70 75 80
139 Ile Ile Glu Leu Leu Gly Pro Ser Leu Glu Asp Leu Phe Ser Ile Cys
140 85 90 95
141 Asn Arg Lys Leu Ser Leu Lys Thr Val Leu Met Leu Ala Asp Gln Met
142 100 105 110
143 Leu Asn Arg Ile Glu Phe Val His Ser Arg His Phe Ile His Arg Asp
144 115 120 125
145 Ile Lys Pro Asp Asn Phe Leu Ile Gly Arg Gly Lys Lys Met Ser Ile
146 130 135 140
147 Val Phe Ala Ile Asp Phe Gly Leu Ala Lys Lys Tyr Arg Asp Pro Arg
148 145 150 155 160
149 Thr Gln Ser His Ile Pro Tyr Arg Glu Gly Lys Asn Leu Thr Gly Thr
150 165 170 175
151 Ala Arg Tyr Ala Ser Val Asn Thr His Leu Gly Ile Glu Gln Ser Arg
152 180 185 190
153 Arg Asp Asp Leu Glu Ala Leu Gly Tyr Val Leu Met Tyr Phe Asn Arg
154 195 200 205
155 Gly Ser Leu Pro Trp Gln Gly Leu Lys Ala Thr Thr Lys Lys Asp Lys
156 210 215 220
157 Tyr Asp Lys Ile Met Glu Lys Lys Met Ser Thr Pro Ile Glu Val Leu

```

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DATE: 08/01/2006

PATENT APPLICATION: US/10/586,374

TIME: 15:52:40

Input Set : A:\pto.da.txt

Output Set: N:\CRF4\07312006\J586374.raw

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158 225          230          235          240
159 Cys Lys Gln Phe Pro Phe Glu Phe Ile Thr Tyr Leu Asn Tyr Cys Arg
160          245          250          255
161 Ser Leu Arg Phe Glu Asp Arg Pro Asp Tyr Ser Tyr Leu Arg Arg Leu
162          260          265          270
163 Phe Lys Asp Leu Phe Phe Arg Glu Gly Tyr Gln Tyr Asp Phe Ile Phe
164          275          280          285
166 Asp Trp Thr Phe Leu His Ala Glu Arg Glu Arg Glu Arg Gln Arg Arg
167          290          295          300
168 Ser Met Val Asn Gln Gly Ala Glu Ser Gly Asn Gln Trp Arg Arg Asp
169 305          310          315          320
170 Ala Ser Gly Arg Asp Pro Leu Gly Arg Leu Pro Gln Leu Glu Pro
171          325          330          335
174 <210> SEQ ID NO: 3
175 <211> LENGTH: 2076
176 <212> TYPE: DNA
177 <213> ORGANISM: Toxoplasma gondii
179 <220> FEATURE:
180 <221> NAME/KEY: CDS
181 <222> LOCATION: (898)...(1872)
183 <400> SEQUENCE: 3
184 cctcgtttttg cttcattccc cgcctttttct ctgtagctaa ccaaaggaac aaagtcagcg 60
185 gtagaagccg tttctttctgt ccgcttccca ctcttcccggt tcggctgccc ctgcagagcg 120
186 ccctttctat gcgttgccac ccgtctgcaa gtatcgcgctc tttcgtctca tcagtgattt 180
187 tctttgcgtg tcgcgttcgg gacgcccttt tctctcctca actaactagc agacgtttct 240
188 tccgtccccgc atgcgacagc gaagggcacg tccccccagt tcttcacgc ccacctgttg 300
189 tgcaacttgt cgcccgtcgt tcttcacttc ttctctccca tctctcgtg actcttcttc 360
190 tcgagaactc tttctgtcga actctcaacc cccacgactg ctggtttcgt ggccgtcccc 420
191 catgcacctt gtgtcccgcg gccttggcgc aaacaccgcg tttctctgct gtccgcctcc 480
192 cgttggaactt ctctccgtgt tttttcgtgt tgccaaaagt ttgtctgctt tgacgtttct 540
193 ctgctcaccc attgcccgtt cttgatgagg aacgctccac attgacagcg aactcacagc 600
194 acgcaccctc cgcgagcgga ctttcacgag cgaggcaaga atccatcgct accccgccta 660
195 cacgtacact actccacttg ggtgcccacg cgcggcttct gggagacaga gacggtcctc 720
196 gttttccgtg tcagaacttt gtcgaggaaa cgctgctgct ggcagcgggg attgtgacct 780
197 ccctcggcga acgggcgaag ccgccctgtc gcgcgtcgcg actcagctga ggcgacaggc 840
198 ggtcggcggc gtgacctctc tttctttttg cattcggccc tgattgcagc acgaagg atg 900
199 Met
200 1
201 gag gtc agg gtc gga ggc aag tac cga ctt ggt cgg aag atc ggc agc 948
202 Glu Val Arg Val Gly Gly Lys Tyr Arg Leu Gly Arg Lys Ile Gly Ser
203 5 10 15
204 ggg tca ttc ggt gat att tat atc ggt gca aac att ttg acg ggg gat 996
205 Gly Ser Phe Gly Asp Ile Tyr Ile Gly Ala Asn Ile Leu Thr Gly Asp
206 20 25 30
207 gag gtg gcg atc aag ttg gag tct atc aag tcg aag cac ccg cag ctg 1044
208 Glu Val Ala Ile Lys Leu Glu Ser Ile Lys Ser Lys His Pro Gln Leu
209 35 40 45
210 ctc tat gag tcg aag ctg tac aaa ctg ctg gct ggc ggc att ggg att 1092
211 Leu Tyr Glu Ser Lys Leu Tyr Lys Leu Leu Ala Gly Gly Ile Gly Ile

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RAW SEQUENCE LISTING

DATE: 08/01/2006

PATENT APPLICATION: US/10/586,374

TIME: 15:52:40

Input Set : A:\pto.da.txt

Output Set: N:\CRF4\07312006\J586374.raw

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212 50          55          60          65
213 ccc atg gtc cac tgg tac ggc atc gaa gga gac tac aat gtt atg gtt 1140
214 Pro Met Val His Trp Tyr Gly Ile Glu Gly Asp Tyr Asn Val Met Val
215          70          75          80
216 atc gac ctt ctc ggc cct tct ctg gag gac ctt ttc agt atc tgc aat 1188
217 Ile Asp Leu Leu Gly Pro Ser Leu Glu Asp Leu Phe Ser Ile Cys Asn
218          85          90          95
219 cgc aaa ctc tct ctc aag acg gtg ttg atg ctc gca gac cag atg ctc 1236
221 Arg Lys Leu Ser Leu Lys Thr Val Leu Met Leu Ala Asp Gln Met Leu
222          100          105          110
223 aac cgc atc gag ttt gtc cat agc aag aac ttc atc cat cgc gat atc 1284
224 Asn Arg Ile Glu Phe Val His Ser Lys Asn Phe Ile His Arg Asp Ile
225          115          120          125
226 aaa ccc gac aac ttc ctc att ggc cgt gga aag aag atg tcc gtc gtc 1332
227 Lys Pro Asp Asn Phe Leu Ile Gly Arg Gly Lys Lys Met Ser Val Val
228 130          135          140          145
229 tac atc atc gat ttc ggt ttg gca aag aaa tat cga gac cca aag act 1380
230 Tyr Ile Ile Asp Phe Gly Leu Ala Lys Lys Tyr Arg Asp Pro Lys Thr
231          150          155          160
232 cag caa cat atc cca tac agg gaa ggc aag aac cta aca ggc aca gcg 1428
233 Gln Gln His Ile Pro Tyr Arg Glu Gly Lys Asn Leu Thr Gly Thr Ala
234          165          170          175
235 cgt tac gct tcc atc aac acc cac ctg ggg atc gag cag agt cgg cga 1476
236 Arg Tyr Ala Ser Ile Asn Thr His Leu Gly Ile Glu Gln Ser Arg Arg
237          180          185          190
238 gac gac cta gag gcg ctc ggt tac gtt ctc atg tac ttc aat aga ggt 1524
239 Asp Asp Leu Glu Ala Leu Gly Tyr Val Leu Met Tyr Phe Asn Arg Gly
240          195          200          205
241 tct ctt ccg tkg cag ggt ctg aag gcg acg acg aag aag gac aaa tac 1572
W--> 242 Ser Leu Pro Xaa Gln Gly Leu Lys Ala Thr Thr Lys Lys Asp Lys Tyr
243 210          215          220          225
244 gac aag att atg gag aag aaa atg tct act ccc atc gaa att ttg tgc 1620
245 Asp Lys Ile Met Glu Lys Lys Met Ser Thr Pro Ile Glu Ile Leu Cys
246          230          235          240
247 aag cat ttc cca ttc gag ttc atc acc tac ttg aat tac tgc cgg tcc 1668
248 Lys His Phe Pro Phe Glu Phe Ile Thr Tyr Leu Asn Tyr Cys Arg Ser
249          245          250          255
250 ctg cgc ttc gag gat cgt cct gac tac gca tac ttg cga cgc ctg ttc 1716
251 Leu Arg Phe Glu Asp Arg Pro Asp Tyr Ala Tyr Leu Arg Arg Leu Phe
252          260          265          270
253 aaa gac ttg ttt ttt aga gag gga tat cag tac gac ttc atc ttc gac 1764
254 Lys Asp Leu Phe Phe Arg Glu Gly Tyr Gln Tyr Asp Phe Ile Phe Asp
255          275          280          285
256 tgg act ttc atc aac acg gag aag gat cgc gcg agt cga aga agc cag 1812
257 Trp Thr Phe Ile Asn Thr Glu Lys Asp Arg Ala Ser Arg Arg Ser Gln
258 290          295          300          305
259 caa gtt tat gtg gaa gac aac cgg caa gtt gag gag aat cag aac gag 1860
260 Gln Val Tyr Val Glu Asp Asn Arg Gln Val Glu Glu Asn Gln Asn Glu
261          310          315          320

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VERIFICATION SUMMARY

DATE: 08/01/2006

PATENT APPLICATION: US/10/586,374

TIME: 15:52:41

Input Set : A:\pto.da.txt

Output Set: N:\CRF4\07312006\J586374.raw

L:14 M:270 C: Current Application Number differs, Replaced Current Application No

L:14 M:271 C: Current Filing Date differs, Replaced Current Filing Date

L:242 M:258 W: Mandatory Feature missing, <223> Tag not found for SEQ ID#:3

L:242 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3 after pos.:1572

L:1061 M:283 W: Missing Blank Line separator, <220> field identifier

**Raw Sequence Listing before editing
(for reference only)**



IFWP

RAW SEQUENCE LISTING

DATE: 07/26/2006

PATENT APPLICATION: US/10/586,374

TIME: 15:08:44

Input Set : A:\pto.da.txt

Output Set: N:\CRF4\07262006\J586374.raw

4 <110> APPLICANT: Robert G.K. Donald
 5 Paul Liberator
 6 Xiaotian Zhong
 8 <120> TITLE OF INVENTION: Coccidian parasite casein kinase I as a
 9 chemotherapeutic target for antiprotozoal agents
 12 <130> FILE REFERENCE: 21554P
 C--> 14 <140> CURRENT APPLICATION NUMBER: US/10/586,374
 C--> 14 <141> CURRENT FILING DATE: 2006-07-14
 14 <150> PRIOR APPLICATION NUMBER: 60/537,094
 15 <151> PRIOR FILING DATE: 2004-01-16
 17 <150> PRIOR APPLICATION NUMBER: PCT/US2005/000955
 18 <151> PRIOR FILING DATE: 2005-01-12
 20 <160> NUMBER OF SEQ ID NOS: 45
 22 <170> SOFTWARE: FastSEQ for Windows Version 4.0

Does Not Comply
Corrected Diskette Needed

(pg-1)

ERRORED SEQUENCES

1057 <210> SEQ ID NO: 45
 1058 <211> LENGTH: 29
 1059 <212> TYPE: DNA
 1060 <213> ORGANISM: Artificial Sequence
 W--> 1061 <220> FEATURE:
 1062 <223> OTHER INFORMATION: oligonucleotide
 1064 <400> SEQUENCE: 45
 1065 gtttccgcag agcttcaaga gcatctgtt
 E--> 1070 - 1 -

29

deleted

VERIFICATION SUMMARY

DATE: 07/26/2006

PATENT APPLICATION: US/10/586,374

TIME: 15:08:45

Input Set : A:\pto.da.txt

Output Set: N:\CRF4\07262006\J586374.raw

L:14 M:270 C: Current Application Number differs, Replaced Current Application No
L:14 M:271 C: Current Filing Date differs, Replaced Current Filing Date
L:242 M:258 W: Mandatory Feature missing, <223> Tag not found for SEQ ID#:3
L:242 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3 after pos.:1572
L:1061 M:283 W: Missing Blank Line separator, <220> field identifier
L:1070 M:254 E: No. of Bases conflict, this line has no nucleotides.